CLAIMS

What is claimed is:

1.   A method for managing resources within a distributed
data processing system, the method comprising the steps
of:
        receiving a lease request for a resource;
        in response to receiving the lease request, securing
leases on a logical circuit of resources through the
distributed data processing system; and
        in response to securing leases on a logical circuit
of resources, sending a lease grant for the resource.

2.   The method of claim 1, wherein the step of receiving
a lease request for a resource further comprises:
        receiving, at a first resource manager, a request
from a resource requester to lease a first requested
resource for a requested lease period.

3.   The method of claim 2, wherein the step of securing
a logical circuit of resources further comprises:
        determining a data path through the distributed data
processing system between the resource requester and the
requested resource;
        requesting, by the first resource manager, a lease
from a second resource manager for a second requested
resource along the data path, wherein use of the first
requested resource requires use of the second requested
resource; and
        receiving, at the first resource manager, a first
granted lease for the second requested resource from the
second resource manager.

4.   The method of claim 3, wherein the step of sending a lease grant for the resource further comprises:

5   in response to receiving the first granted lease for the second requested resource, sending a second granted lease to the resource requester by the first resource manager.

10   5.   The method of claim 4 further comprising:
         detecting an oversubscribed condition on the first requested resource; and
         in response to the detected oversubscribed condition, reducing a requested lease period in the
15   second granted lease.

6.   The method of claim 3, wherein the step of determining a data path through the distributed data processing system further comprises:

20   retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data processing system.

7.   The method of claim 1 further comprising:
25   detecting an oversubscribed condition on the resource; and
         reducing a lease period for the granted lease.

8.   The method of claim 1 further comprising:
30   detecting an error condition; and
         reducing a lease period for the lease grant.

AUS9-2000-0699▮S1

9. An apparatus for managing resources within a distributed data processing system, the apparatus comprising:

first receiving means for receiving a lease request
5   for a resource;

securing means for securing, in response to receiving the lease request, leases on a logical circuit of resources through the distributed data processing system; and

10   sending means for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

10. The apparatus of claim 9, wherein the first
15   receiving means further comprises:

second receiving means for receiving, at a first resource manager, a request from a resource requester to lease a first requested resource for a requested lease period.

20

11. The apparatus of claim 10, wherein the securing means further comprises:

determining means for determining a data path through the distributed data processing system between
25   the resource requester and the requested resource;

requesting means for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use
30   of the second requested resource; and

third receiving means for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

5   12. The apparatus of claim 11, wherein the first sending means further comprises:

second sending means for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the
10 resource requester by the first resource manager.

13. The apparatus of claim 12 further comprising:

first detecting means for detecting an oversubscribed condition on the first requested resource;
15 and

first reducing means for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.

20 14. The apparatus of claim 11, wherein the determining means further comprises:

retrieving means for retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data
25 processing system.

15. The apparatus of claim 9 further comprising:

second detecting means for detecting an oversubscribed condition on the resource; and
30 second reducing means for reducing a lease period for the granted lease.

16. The apparatus of claim 9 further comprising:

third detecting means for detecting an error condition; and

third reducing means for reducing a lease period for

5   the lease grant.

17. A computer program product on a computer readable medium for use in a data processing system for managing resources within the distributed data processing system,

10   the computer program product comprising:

first instructions for receiving a lease request for a resource;

instructions for securing, in response to receiving the lease request, leases on a logical circuit of

15   resources through the distributed data processing system; and

first instructions for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

20

18. The computer program product of claim 17, wherein the first instructions for receiving further comprises:

second instructions for receiving, at a first resource manager, a request from a resource requester to

25   lease a first requested resource for a requested lease period.

19. The computer program product of claim 18, wherein the instructions for securing further comprises:

30   instructions for determining a data path through the distributed data processing system between the resource requester and the requested resource;

instructions for requesting, by the first resource
manager, a lease from a second resource manager for a
second requested resource along the data path, wherein
use of the first requested resource requires use of the

5   second requested resource; and

third instructions for receiving, at the first
resource manager, a first granted lease for the second
requested resource from the second resource manager.

10   20.   The computer program product of claim 19, wherein
the first instructions for sending further comprises:

second instructions for sending, in response to
receiving the first granted lease for the second
requested resource, a second granted lease to the

15   resource requester by the first resource manager.

21.   The computer program product of claim 20 further
comprising:

first instructions for detecting an oversubscribed

20   condition on the first requested resource; and

first instructions for reducing in response to the
detected oversubscribed condition, a requested lease
period in the second granted lease.

25   22.   The computer program product of claim 19, wherein
the instructions for determining further comprises:

instructions for retrieving a predetermined data
path that has been previously stored after a dynamic
discovery process of devices within the distributed data

30   processing system.

AUS9-2000-0699 S1

23. The computer program product of claim 17 further comprising:

second instructions for detecting an oversubscribed condition on the resource; and

second instructions for reducing a lease period for the granted lease.

24. The computer program product of claim 17 further comprising:

third instructions for detecting an error condition; and

third instructions for reducing a lease period for the lease grant.

25. A network comprising:

first receiving means for receiving a lease request for a resource;

securing means for securing, in response to receiving the lease request, leases on a logical circuit of resources through the distributed data processing system; and

sending means for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

26. The network of claim 25, wherein the first receiving means further comprises:

second receiving means for receiving, at a first resource manager, a request from a resource requester to lease a first requested resource for a requested lease period.
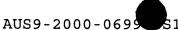
27. The network of claim 26, wherein the securing means further comprises:

determining means for determining a data path through the distributed data processing system between the resource requester and the requested resource;

requesting means for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use of the second requested resource; and

third receiving means for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

28. The network of claim 27, wherein the first sending means further comprises:

second sending means for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the resource requester by the first resource manager.

29. The network of claim 28 further comprising:

first detecting means for detecting an oversubscribed condition on the first requested resource; and

first reducing means for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.

AUS9-2000-069 1

30. The network of claim 27, wherein the determining means further comprises:

   retrieving means for retrieving a predetermined data path that has been previously stored after a dynamic
5 discovery process of devices within the distributed data processing system.

31. The network of claim 25 further comprising:

   second detecting means for detecting an
10 oversubscribed condition on the resource; and

   second reducing means for reducing a lease period for the granted lease.

32. The network of claim 25 further comprising:

15   third detecting means for detecting an error condition; and

   third reducing means for reducing a lease period for the lease grant.